



 **COCONINO**  
COUNTY ARIZONA  
**FLOOD CONTROL DISTRICT**



Museum Flood Area

***Museum Fire & Flood Area Update***

***Monday, November 4, 2019***

***Joint City Council & Board of Supervisors Meeting***



 **COCONINO**  
COUNTY ARIZONA  
FLOOD CONTROL DISTRICT

# ***Presentation Overview***

***Lucinda Andreani***

***Coconino County Flood Control District  
Administrator***

***Andy Bertelsen***

***City of Flagstaff Public Works Director***



# ***Museum Fire***



***U.S. Forest Service***



# ***EOC Operations***



***Todd Whitney***

***Director of Emergency Management***

# **County/City**

## **Emergency Operations Center**

- **County/City Staff in the EOC**
- **City/County Policy Group**
  - **Provided EOC Policy Guidance**
- **Focus – Evacuation  
Communication, Media, Public  
Communication**
- **Incident Command manages fire**



# One County Response with Statewide & Local Partnerships



**American  
Red Cross**



United Way  
of Northern Arizona





# ***Flood Control District Flood Mitigation Experience***



# ***Flood Control District Experience Applied to Museum Flood Response***

- **Schultz Fire and Flood Mitigation (2010 – 2015)**
  - Over \$50 million in response & mitigation costs
- **Slide Fire and Flood Mitigation (2014)**
  - Over \$700,000 in response & mitigation costs
- **North Schultz Flood (2018 – 2019)**
  - About \$2 million in response & mitigation costs
- **Museum Fire and Flood Mitigation (2019)**
  - \$1.8 million in response & mitigation costs

***Top Flood Risk Assessment Team***





**COCONINO**  
COUNTY ARIZONA  
**FLOOD CONTROL DISTRICT**



***Museum Flood Area Mitigation***

# ***Museum Fire = Serious Flood Risk***

- Burned 1,961 acres
- Impacted the Spruce Avenue Watershed
- 52% of the watershed burned
- Of the total area burned, 53% burned severely and moderately = hydrophobic soils
- Much of the area is steep slopes



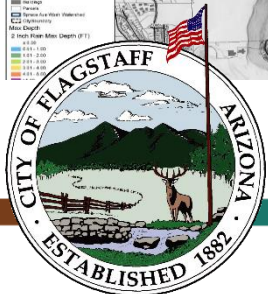
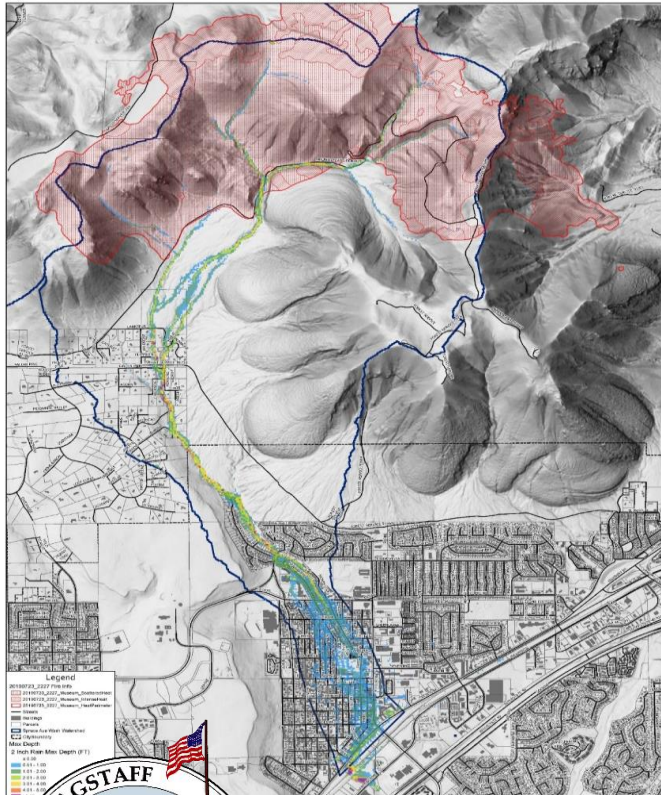
# ***Museum Fire Flood Impacts***

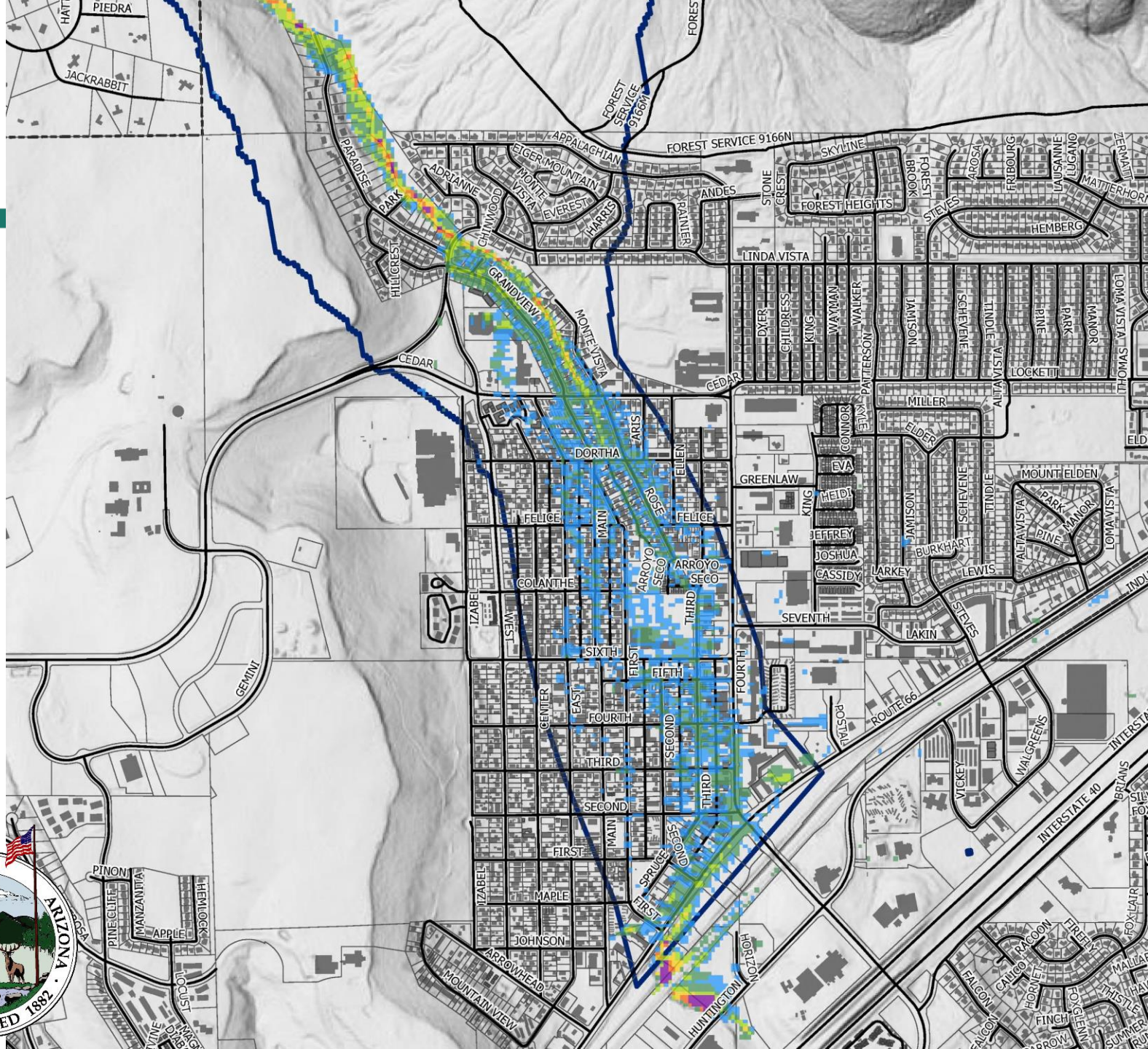
- Spruce Ave. Watershed flows through two rural developments in the County and three neighborhoods in the City of Flagstaff affecting over 400 homes and approximately 50 businesses
- Total property valuation is \$303,000,000



# Science-Based Approach to Flood Mitigation

- FEMA funded study identified Spruce Ave. Watershed at high risk for post-wildfire flooding
- Within 24 hours of the fire's ignition, FCD worked with JE Fuller to update flood model using the best science available
- Within 48 hours we understood hazards and developed the emergency flood mitigation measures plan
- The plan was implemented beginning with the most hazardous area and addressed the type and level of hazard in each area





# ***Flood Mitigation Overview***

- **Mitigation began with assessments of high risk properties by County and City staff persons and private engineers to determine mitigation strategies, where feasible**
- **Flood mitigation measures included sand bags and concrete & water barriers to mitigate impacts**
- **Signed Cooperator Agreements (CA) required for the installation of all flood mitigation measures**
- **Cleared channels of vegetation and removed debris from flood paths**



# Flood Mitigation: Barriers



# Flood Mitigation: Sandbags



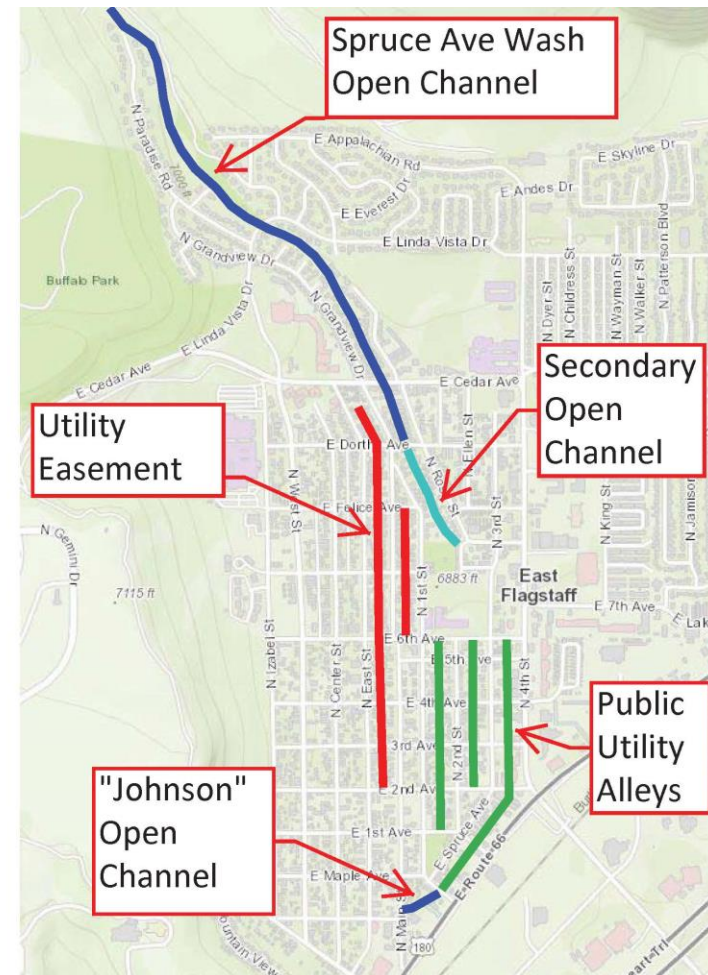
# Vegetation Removal



# Vegetation Removal

## Miles Cleared:

- 1.3 mi - Open Channels
- 1.2 mi - Public Utility Alleys
- 1.0 mi - Utility Easements



# Mitigating Flood Debris



# ***Utilities Protection***



# Museum Flood Mitigation

- Mitigated over 400 homes and about 35 businesses in just over two weeks
- 6,600 feet of concrete & water barriers
- Over 600,000 sand bags
- 3.5 miles of debris & vegetation removal
- 15 Community Meetings
- Established Flood Monitoring System
- FCD Cost = \$1.8 Million
- City Cost = \$765,000



**COCONINO COUNTY ARIZONA  
FLOOD CONTROL DISTRICT**

**produced and installed:**

over  
**600,000  
SANDBAGS**

**6,600**  
linear feet of barriers

IN JUST OVER  
**TWO**  
weeks



# The Power of Partnerships



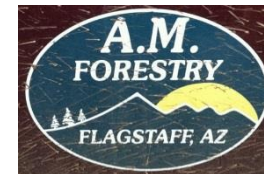
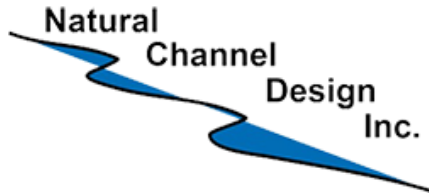
United Way  
of Northern Arizona



**NAU**  
NORTHERN  
ARIZONA  
UNIVERSITY



# The Power of Partnerships





 **COCONINO**  
COUNTY ARIZONA  
FLOOD CONTROL DISTRICT

# ***Communications & Outreach Efforts***



# Community Meetings

- 15 Community Meetings



# Museum Fire Flood Area Webpage

[www.coconino.gov/MuseumFire/FloodArea](http://www.coconino.gov/MuseumFire/FloodArea)

Home > Your Government > Departments (P-2) > Public Works > Flood Control District > Museum Fire & Flood Area

### Museum Fire & Flood Area

What's News...  
Museum Fire closure area to be reduced Friday FLAGSTAFF, ARIZ., Oct. 3, 2019 — The Coconino National Forest is reducing the size of the area closure for the Museum Fire on Friday (Oct. 4) to allow for increased access and recreation on parts of Mt. Elden. [Additional info.](#)

Museum Flood Area Emergency Alert Process

Museum Flood Area: Frequently Asked Questions

Proceso de alerta de emergencia del área de inundación del museo

Museum Fire Scar: Rain Gauge Data & Map

National Flood Insurance Program: Flood Insurance Information

Preliminary Museum Fire Flood Risk Maps

Museum Fire Scar Weather Info.

Social Media & Important Links

Recursos

NWS Flash Flood Handout

Sandbag Information

Museum Fire Closure Order & Map



# Information Materials (English & Spanish)

**COCONINO COUNTY ARIZONA FLOOD CONTROL DISTRICT**

**PROCESO DE ALERTA DE EMERGENCIA DEL ÁREA DE INUNDACIÓN DEL MUSEO**

**UMBRAL DE LLUVIA**

**Umbral #1**  
0.25 pulgadas de lluvia en 15 minutos

**Umbral #2**  
0.40 pulgadas de lluvia en 15 minutos

**Umbral #3**  
0.75 pulgadas de lluvia en 15 minutos

**Registro para notificaciones de emergencia!**

**Emergency Notifications**  
Coconino.gov/ready

**www.coconino.gov/museumfloodarea**  
Centro de Llamadas 928.213.2990

**FLOOD WARNING**  
A Flood Warning is issued when flooding is happening or will happen soon. Some roads will be flooded.  
Move to higher ground.  
Never drive through flooded roads.  
take action.

**FLOOD WATCH**  
A Flood Watch is issued when flooding is possible.  
Stay tuned to radio/TV, follow weather.gov and be ready to seek higher ground.  
Learn more at weather.gov/flood.  
be prepared.

**Enable Wireless Emergency Alerts on your smartphone to receive flash flood warnings issued by the National Weather Service. Click on "Extreme Threats" and "Severe Threats" under Settings.**

**AVISO DE INUNDACIÓN**  
Un Aviso de Inundación es emitido cuando la inundación está ocurriendo o ha de ocurrir pronto. Algunas carreteras quedarán inundadas.  
Muévase a un lugar alto.  
Nunca conduzca a través de carreteras inundadas.  
tome acción.

**VIGILANCIA DE INUNDACIÓN**  
Una Vigilancia de Inundación es emitida cuando una inundación es posible.  
Manténgase sintonizado a la radio/TV, infórmese a través de weather.gov y esté listo para moverse a un lugar alto en caso de ser necesario.  
Aprenda más en weather.gov/flood.  
esté preparado.

**Weather Forecasts:**  
<http://www.weather.gov/flagstaff>

**COCONINO COUNTY ARIZONA FLOOD CONTROL DISTRICT**

**MUSEUM FLOOD AREA EMERGENCY ALERT PROCESS**

**RAINFALL THRESHOLDS**

**Threshold #1**  
0.25 inches of rainfall in 15 minutes

**Threshold #2**  
0.40 inches of rainfall in 15 minutes

**Threshold #3**  
0.75 inches of rainfall in 15 minutes

**RAINFALL GAUGE THRESHOLD #1**  
When this threshold is reached, the Flood Director will alert the Emergency Operations Center. City and County officials and activate personnel to monitor drainages and water flows.

**RAINFALL GAUGE THRESHOLD #2**  
When this threshold is reached, the following happens:  
• An Emergency Notification Alert will ONLY be issued to Mt. Elden Estates neighborhood  
• County and City Social Media will post this alert for Mt. Elden Estates

**RAINFALL GAUGE THRESHOLD #3**  
When this threshold is reached, the following happens:  
• An Emergency Notification Alert will be issued to the entire Museum Flood Area (Mt. Elden Estates, Paradise, Grandview & Sunnyside)  
• All cell-phones in the area will get an Emergency Notice (with an Amber Alert)  
• County and City Social Media will post this alert

**WHAT TO DO IN A FLOOD EMERGENCY**

- DO NOT ENTER FLOOD WATERS
- SHUTILE IN PLACE
- If outdoors, get to high ground or get into your home
- Know where your children & pets are
- Do not let children play in drainages
- If your home is flood impacted, call 928.213.2990
- Call 9-1-1 for EMERGENCIES ONLY

**Emergency Notifications**  
Coconino.gov/ready

**www.coconino.gov/museumfloodarea** Call Center 928.213.2990

**SOCIAL MEDIA AND IMPORTANT LINKS**

**Emergency Notifications**  
Coconino.gov/ready

**Flood Website:** [www.coconino.gov/museumfloodarea](http://www.coconino.gov/museumfloodarea)  
**Flood Email:** [museumflood@coconino.gov](mailto:museumflood@coconino.gov)  
**Call Center:** (928) 213-2990  
**Fax:** (928) 213-2990  
**Incident Website:** [www.coconino.gov/incident](http://www.coconino.gov/incident)  
**Coconino County Website:** [www.coconino.gov](http://www.coconino.gov)  
**Flagstaff City Website:** [www.flagstaffaz.gov](http://www.flagstaffaz.gov)  
**Coconino National Forest Website:** [www.fs.fed.us/coconino](http://www.fs.fed.us/coconino)  
**Smoke Outlook:** <http://www.coconinoforest.com/outlook/central-arizona>

**Map:** Museum Fire Staffing Sites  
Dirt lot north of 2025 N. King St. (HHS)  
Jed Montano Little League Field the corner of Spruce St & 1st Avenue

**City of Flagstaff**  
ESTABLISHED 1892

**COCONINO COUNTY ARIZONA FLOOD CONTROL DISTRICT**

**MUSEUM FLOOD RISK ADVISORY**  
July 27, 2019

**Museum Flood Area Property Owners must be Aware of the Following:**

- There is a strong likelihood of hazardous flash flooding as a result of the Museum Fire. The Coconino County Flood Control District has conducted a preliminary analysis of the flood risk created by the Museum Fire and determined that the area shown on the map is at risk for hazardous flash flooding. It must be noted that flood waters can create unpredictable changes, which can create new flood paths.
- The Flood Control District is implementing and has implemented flood mitigation measures to reduce flooding impacts resulting from the Museum Fire. These measures, which were implemented with the consent of affected property owners wherever they were located on private land, will only handle the more regular, smaller type storm events, not large storm events. The measures implemented are based upon our best available preliminary data. The flood mitigation measures being implemented are not a complete protection from post-wildfire flooding but implemented as emergency response measures.
- The Flood Control District strongly encourages all property owners and occupants to take suitable precautions to mitigate flooding impacts to their properties and themselves from injury or loss of life due to flooding. The determination of what specific precautions are suitable for your particular property is your responsibility. You may wish to consult an engineer of your choice.
- The Flood Control District strongly encourages all home owners within the expected flood area to purchase flood insurance. A separate flood insurance policy through the National Flood Insurance Program (NFIP) covers damage to your home and belongings caused by flooding with a specific cap on the amount of damages. Standard homeowners' insurance does NOT cover flood damage. More information is available at [www.floodsmart.gov](http://www.floodsmart.gov) and at [www.coconino.gov/floodcontrol](http://www.coconino.gov/floodcontrol).
- Within the Museum Flood Risk Area there are formal and informal drainage channels. Residents and others should NOT enter these flood channels nor allow children or pets into these channels. Floodwaters may enter the neighborhoods with very little or no notice.
- Please review the map (back side of this sheet) of the Museum Flood Risk Area. This map is based on information available as of July 26, 2019.

The important information in this Notice is provided to Museum Flood Area property owners so that they can take suitable precautions to protect themselves and their properties. This Notice is intended to comply with ARS 48-3653 (J).

For more information regarding Museum Flood Area Flood Mitigation and mitigation, please visit [www.coconino.gov/museumfloodarea](http://www.coconino.gov/museumfloodarea)

**COCONINO COUNTY ARIZONA FLOOD CONTROL DISTRICT**

**RIESGO DE LA INUNDACIÓN DEL MUSEO CONSULTIVO: 27 Julio 2019**

Proprietarios de la zona de inundación del museo debe tener en cuenta lo siguiente:

- Existe una fuerte probabilidad de inundaciones peligrosas resultantes del incendio del Museo. El Distrito de Control de Inundaciones del condado de Coconino condujo un análisis preliminar del riesgo de la inundación creado por el incendio del Museo y determinó que el área que se muestra en el mapa está en riesgo de inundaciones peligrosas. Debe tenerse en cuenta que las aguas de inundación pueden crear cambios impredecibles, lo que puede crear nuevas rutas de inundación.
- El Distrito de Control de Inundaciones está implementando y ha implementado medidas de mitigación de inundaciones para reducir los impactos de inundaciones resultantes del incendio del Museo. Estas medidas, que se aplicaron con el consentimiento de los propietarios afectados dondequiera que se encontraban en terrenos privados, solo se manejarán los eventos de tormenta más regulares y más pequeños, no los grandes eventos de tormenta. Las medidas implementadas se basan en nuestros mejores datos preliminares disponibles. Las medidas que se están aplicando después de los incendios forestales no es la suficiente protección en contra de la inundación, solo es una implementación que se ha tomado como una medida rápida de emergencia.
- El Distrito de Control de Inundaciones alienta encarecidamente a todos los propietarios y ocupantes a tomar las precauciones necesarias para mitigar los impactos de inundaciones en sus propiedades y a sí mismos contra lesiones o pérdidas de vidas debido a inundaciones. La determinación de qué precauciones específicas se requieren para su propiedad es su responsabilidad. Es posible que desee consultar a un ingeniero de su elección.
- El Distrito de Control de Inundaciones alienta a todos los propietarios de viviendas dentro del área de inundación esperada a comprar seguro contra inundaciones. Las pólizas de seguro contra inundaciones ofrecidas a través del Programa Nacional de Seguro contra Inundaciones (NFIP) cubren daños a su casa y pertenencias causados por inundaciones con un top específico sobre la cantidad de daños. El seguro estándar para propietarios NO cubre los daños causados por las inundaciones. Hay más información disponible en [www.floodsmart.gov](http://www.floodsmart.gov) and at [www.coconino.gov/floodcontrol](http://www.coconino.gov/floodcontrol).

Dentro de la zona de riesgo de inundaciones del Museo hay canales de drenaje formales e informales. Los residentes y otros NO deben entrar en estos canales de inundación ni permitir que los niños o mascotas entren en estos canales. Las inundaciones pueden entrar en los vecindarios con muy poca o ningún aviso.

Por favor, revise el mapa (en el reverso de esta hoja) de la zona de riesgo de inundaciones del Museo. Este mapa se basa en la información disponible a partir del 26 de julio de 2019.

La información importante de este Aviso se proporciona a los propietarios de la zona de inundación del Museo para que puedan tomar las precauciones adecuadas para protegerse a sí mismos y a sus propiedades. Este Aviso está destinado a cumplir con ARS 48-3653 (J).

Para obtener más información sobre la mitigación y mitigación de inundaciones en el área de inundaciones del Museo, visite [www.coconino.gov/museumfloodarea](http://www.coconino.gov/museumfloodarea)

**COCONINO COUNTY ARIZONA FLOOD CONTROL DISTRICT**

**Emergency Notifications**  
Coconino.gov/ready

**RECURSOS**

**Sitio Web de Inundación:** [www.coconino.gov/museumfloodarea](http://www.coconino.gov/museumfloodarea)  
**Correo Electrónico de Inundación:** [museumflood@coconino.gov](mailto:museumflood@coconino.gov)  
**Centro de Llamadas:** (928) 213-2990  
**Correo Electrónico de Emergencia:** [2019.annual@ccfd.net](mailto:2019.annual@ccfd.net)  
**Sitio Web Incidentes:** [www.coconino.gov/incident](http://www.coconino.gov/incident)  
**Sitio Web del Condado:** [www.coconino.gov](http://www.coconino.gov)  
**Sitio Web del Ciudad:** [www.flagstaffaz.gov](http://www.flagstaffaz.gov)  
**Sitio Web del Bosque Nacional:** [www.fs.fed.us/coconino](http://www.fs.fed.us/coconino)  
**Sitio Web del Museo:** [www.coconinoforest.com/outlook/central-arizona](http://www.coconinoforest.com/outlook/central-arizona)

**Map:** Museo Fire Staffing Sites  
Alto Street cerca Frances Short Point  
Jed Montano Little League Field on the corner of Spruce St & 1st Avenue

**Twitter:** @MuseumFireInfo, @CoconinoCounty, @CityofFlagstaff, @CoconinoNF  
**Facebook:** @CoconinoCounty, @CityofFlagstaff, @MuseumFireInfo, @USForestServiceCoconino  
**United Way:** Teal Flagstaffed to 4144 to donate, Teal volunteerism to 5155 to volunteer



**COCONINO  
COUNTY ARIZONA**

**FLOOD CONTROL DISTRICT**

# Recent Communication to Residents & Property Owners



**COCONINO  
COUNTY ARIZONA  
FLOOD CONTROL DISTRICT**



Para Español, ver atrás

October 29, 2019

Dear Museum Flood Area Resident,

On behalf of the Coconino County Flood Control District (FCD) and the City of Flagstaff (City), we would like to again thank you and your neighbors for your cooperation and community spirit during the Museum Fire, and especially during installation of emergency flood mitigation measures in your neighborhood. More than 600,000 sandbags and 6,800 linear feet of barriers were installed throughout the Museum Flood area by the FCD's team in just over two weeks. This was a monumental undertaking, one which would have been impossible without your support.

As we move from the driest monsoon season on record into autumn, we want to provide you with a brief update regarding the importance of keeping these emergency flood mitigation measures in place as well as some possible long-term on-forest flood mitigation projects that are underway or being considered for the Museum Flood area. Please note that, for the reasons outlined below, **the FCD and City strongly recommend keeping your flood mitigation in place through the 2020 monsoon season.**

Emergency Flood Mitigation Measures

First and foremost, it's very important to understand that the threat of flooding is real and that your property will remain at high risk for post-wildfire flooding for several years. Although we are fortunate to have not experienced any flooding this summer, it is equally important to note that the National Weather Service classified the 2019 monsoon season as the driest since record keeping began in 1898 (as recorded at the Flagstaff Airport). The San Francisco Peaks area received only about 20 percent of its normal rainfall amount during this monsoon season. The Museum Fire Burn Scar received only about 2.5 – 3.7 inches of rainfall during the 2019 monsoon season, which is about 95 percent of normal monsoon precipitation. In addition, rainfall that did fall on the burn scar was light to moderate in character and therefore did not create significant post-wildfire flooding downstream.

Given this very dry monsoon season, some residents might wonder if they need to keep their emergency flood mitigation measures in place. They should. Those considering removing their measures also need to consider the following:

- ❖ Because of the historically dry 2019 monsoon season, the flood mitigation measures in your neighborhood were not tested against anything close to normal rainfall conditions.
- ❖ The placement of flood mitigation in your neighborhood was based on science and the lessons learned from the Schultz and Slide fires. The science included a previously conducted FEMA-funded County-wide post-wildfire flood risk study, which created a flood model for the Spruce Avenue watershed (the watershed impacted by the Museum Fire). This watershed was identified



**COCONINO  
COUNTY ARIZONA  
FLOOD CONTROL DISTRICT**



29 de octubre 2019

Estimado/a residente en el área de inundación del incendio Museo,

En nombre del Distrito de Control de Inundaciones del Condado de Coconino y la Ciudad de Flagstaff, nos gustaría agradecerle de nuevo a usted y a sus vecinos por su cooperación y espíritu comunitario durante el incendio del Museo, y especialmente durante la instalación de medidas de mitigación contra inundaciones en su vecindario. Más de 600,000 sacos de arena y 6 800 metros lineales de barreras fueron instaladas en el área de inundación por el equipo del Distrito de Control de Inundaciones en poco más de dos semanas. Esta fue un proyecto enorme, que no habría sido posible sin su apoyo.

A medida que nos adentramos en el otoño con la seca temporada de monzones en registro, queremos ofrecerle una breve actualización acerca de la importancia del mantener medidas de mitigación en su propiedad, así como algunas de las soluciones que están en marcha o que están siendo consideradas para el Museo área de inundación.

Tenga en cuenta que, por las razones expuestas abajo, **el Distrito de Control de Inundaciones del Condado y la Ciudad recomiendan encarecidamente mantener su mitigación de inundaciones (sacos de arena) en su lugar durante la temporada de monzones 2020.**

Medidas de Mitigación de Inundaciones de Emergencia

En primer lugar, es muy importante entender que la amenaza de inundaciones es real y que su propiedad permanecerá en alto riesgo de inundación después de incendios forestales durante varios años. Aunque tenemos la suerte de no haber experimentado ninguna inundación este verano, es igualmente importante recordar que el Servicio Meteorológico Nacional clasificó la temporada de monzones 2019 como el más seco desde que comenzó el registro en 1898 (como se registra en el Aeropuerto de Flagstaff).

El área del Pico de San Francisco recibió solo alrededor del 20 por ciento de su cantidad normal de lluvia durante esta temporada de monzones. La ciudad de quemaduras de fuego recibió solo alrededor de 2.5 – 3.7 pulgadas de lluvia durante la temporada de monzones 2019, que es alrededor del 95 por ciento de la precipitación normal del monzon. Además, las precipitaciones que cayeron sobre la cicatriz de quemaduras eran de carácter ligero a moderado y, por lo tanto, no crearon una inundación significativa.

Aunque esta temporada de monzones muy seco, algunos residentes podrían preguntarse si necesitan mantener sus medidas de mitigación de inundaciones de emergencia en su lugar. **Deberían.** Aquellos que consideran la posibilidad de eliminar sus medidas también deben tener en cuenta lo siguiente:

- ❖ Debido a la temporada de monzones históricamente seco 2019, las medidas de mitigación de inundaciones en su vecindario no se probaron contra nada cercano a las condiciones normales de lluvia.
- ❖ La colocación de la mitigación de inundaciones en su vecindario se basó en la ciencia y las lecciones aprendidas de los incendios de Schultz y Slide. La ciencia incluyó un estudio de riesgo de inundación después de un incendio forestal financiado por FEMA, que creó un modelo de inundación para la cuenca



# 2019 “Non-Soon”

- Threat of flooding is real properties will remain at high risk for post-wildfire flooding for several years
- The National Weather Service classified the 2019 monsoon season as the driest since record keeping began in 1898 (as recorded at the Flagstaff Airport).
- The San Francisco Peaks area received only about 20 percent of its normal rainfall amount during this monsoon season.
- The Museum Fire Burn Scar received only about 2.5 – 3.7 inches of rainfall during the 2019 monsoon season, which is about 35 percent of normal monsoon precipitation.
- Rainfall that did fall on the burn scar was light to moderate in character and therefore did not create significant post-wildfire flooding downstream.



# ***Flood Mitigation Recommendations***

- ***The FCD and City strongly recommend keeping your flood mitigation in place through the 2020 monsoon season***
- We do not yet know how winter snow or spring rain runoff potential impacts... a rain-on-snow event could cause very serious flooding in the Museum Flood Area.



# ***Flood Mitigation Recommendations***

- **Removal of any section of mitigation from an individual property may compromise the effectiveness of this system and could result in adverse flooding effects to adjacent properties – the private property owner can be held responsible for any damage**
- **The City team is working to create a modified snow removal operations strategy that will help to minimize the impact of installed mitigation on snow removal operations. The County is committed to assisting the City with those operations if needed.**



# ***Keep your Sand Bags!***

- **Please Do Not Dispose of Your Sandbags!**
- **Disposal of sandbags is owner's responsibility.**
- **Sandbags cannot be put in City trash cans or placed curbside for City bulk pickup.**
- **Sandbags can be taken to the Cinder Lake Landfill or if they are in good shape, returned to the sandbag station at 2625 N. King Street.**
- **Protect Your Sandbags! Cover them with plastic**





**COCONINO**  
COUNTY ARIZONA

**FLOOD CONTROL DISTRICT**

# ***Going Forward: Long-Term Mitigation***



# ***On-Forest Measures***

- **FCD secured USFS grant to construct on-forest measures**
- **FCD working with large private property owner and NRCS to potentially construct similar measures on private parcel**



# ***Linda Vista Culvert***

## ***Emergency Protective Measures***

- **Location:** Just north of the Cedar Safeway on E. Linda Vista Dr. between N. Paradise Rd. and south of N. Adrienne Way at the E. Linda Vista Dr. and the Spruce Ave. Wash drainage crossing
- **Rationale:** The Spruce Avenue Wash Watershed conditions drastically changing as a result of the Museum Fire and the existing stormwater inlet capacity being undersized for the conditions of the altered watershed.



# ***Linda Vista Culvert***

## ***Emergency Protective Measures***

- **Goal:** This project will increase the capacity of the culvert at Linda Vista Drive and the Spruce Avenue Wash allowing more stormwater through the City stormwater infrastructure and reducing the amount of stormwater on City roadways.
- **Status:** City is currently reviewing the 95% phase of the Design & Construction of the culvert is planned for early December



# ***Continuing Vigilance***

- Continue Flood Monitoring
- Communication slated for June 2020 in preparation for 2020 Monsoon Season
- Questions or concerns – email:

[museumfloodinfo@coconino.az.gov](mailto:museumfloodinfo@coconino.az.gov)





 **COCONINO**  
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# ***Discussion***

